

ABSTRACT OF THE DISCLOSURE

A tool for embossing high aspect ratio microstructures is provided, wherein the microstructures provide decreased surface reflection and increased transmission through an optical component. The tool is fabricated by a process that comprises etching columnar pits in a silicon substrate using inductively coupled plasma, followed by reactive ion etching of the columnar pits to create relatively pointed obelisks. The silicon substrate is then preferably rinsed prior to vapor depositing a conductive layer thereon. Finally, a metal is electroformed over the conductive layer to form the embossing tool. The embossing tool is then pressed against an optical coating, for example a polymer sheet, to create microstructures having aspect ratios greater than 5 to 1.